

### Abstract

A modem coupling circuit comprising: (a) a transformer 1 having a core 1a including a gap formed therein, primary windings N1a, N1b constituting a bifilar wound coil which is wound around the core 1a, forming a single layer and connected to power lines L1, L2, and a secondary winding N2 connected to a transmitting circuit 2 and a secondary winding N3 connected to a receiving circuit 3, the secondary windings N2, N3 holding the single layer of the primary windings between; (b) a coupling capacitor C1 connected to a middle point between first ends of the primary windings, the first ends being not connected to the power lines L1, L2; (c) current limiting resistances R1a, R1b connected to the primary windings N1a, N1b having a bifilar construction; (d) drive resistances R2a, R2b connected to the secondary winding for transmission N2; and (e) terminating resistances R3a, R3b connected to the secondary winding for reception N3.